

periods and a corresponding number of adsorbate particles to be generated during each generation period; and

a particle motion computing unit which generates the adsorbate particles in accordance with the information set by the kinetic condition setting unit and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source wherein

for each adsorbate particle, the kinetic condition setting unit sets a region indicating a position of the corresponding emission source, and

the particle motion computing unit generates each adsorbate particle in accordance with the position of the corresponding emission source.

3. (ONCE AMENDED) An apparatus as in claim 1, wherein

before generating the adsorbate particles, the particle motion computing unit generates the substrate particles.

4. (NOT AMENDED) An apparatus as in claim 1, further comprising:

a display which allows a user to enter the information set by the kinetic condition setting unit.

5. (ONCE AMENDED) An apparatus as in claim 1, wherein

the kinetic condition setting unit sets information for generating the substrate particles.

6. (TWICE AMENDED) An apparatus as in claim 1, wherein

each adsorbate particle is formed of atoms;

the information set by the kinetic condition setting unit includes information indicating whether the atoms of a respective adsorbate particle are static against a center of mass of the adsorbate particle; and

when the particle motion computing unit generates an adsorbate particle and the information set by the kinetic condition setting unit indicates that the atoms of the respective adsorbate particle are not static against the center of mass, the particle motion computing unit provides a random orientation to the atoms of the adsorbate particle.

7. (NOT AMENDED) An apparatus as in claim 6, further comprising:
a display which allows a user to enter the information set by the kinetic condition setting unit.
8. (TWICE AMENDED) An apparatus as in claim 1, wherein
each adsorbate particle is formed of atoms;
the information set by the kinetic condition setting unit includes information indicating whether the atoms of a respective adsorbate particle are static against a center of mass of the adsorbate particle; and
when the particle motion computing unit generates an adsorbate particle and the information set by the kinetic condition setting unit indicates that the atoms of the respective adsorbate particle are not static against the center of mass, the particle motion computing unit provides an initial velocity to the atoms of the adsorbate particle.
9. (TWICE AMENDED) An apparatus as in claim 1, wherein, when generating an adsorbate particle, the particle motion computing unit provides a random direction within a cone pointed at a substrate and being centered at a point of generation of center of mass velocity of the adsorbate particle.
11. (NOT AMENDED) An apparatus as in claim 1, further comprising:
a display which displays the information set by the kinetic condition setting unit.
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12. (TWICE AMENDED) An apparatus for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the apparatus comprising:
an input device which allows a user to designate a region;
a kinetic condition setting unit which, for each adsorbate particle, sets the region designed by the user as a region indicating a position of the corresponding emission source; and
a particle motion computing unit which generates the adsorbate particles in accordance with the position of the corresponding emission source as indicated by the region designated by the user and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles.

13. (NOT AMENDED) An apparatus as in claim 12, wherein the input device is a display.

14. (NOT AMENDED) An apparatus as in claim 12, further comprising:
a display which displays the information set by the kinetic condition setting unit.

15. (ONCE AMENDED) An apparatus as in claim 14, wherein the display shows the adsorbate particles generated by the particle motion computing unit and indicates the motion computed by the particle motion computing unit.

16. (FOUR TIMES AMENDED) An apparatus for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the apparatus comprising:

a kinetic condition setting unit which sets information for defining kinetic conditions of the adsorbate particles; and

a particle motion computing unit which generates the adsorbate particles in accordance with the information set by the kinetic condition setting unit and the position of the corresponding emission source, and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source.

17. (TWICE AMENDED) An apparatus as in claim 16, wherein
the adsorbate particles move towards the substrate particles,
the kinetic condition setting unit sets a region for defining an initial position of the adsorbate particles, and

the apparatus further comprises a display which displays the relationship between the region set by the kinetic condition setting unit and a region indicating a position of a substrate particle forming said particle formed of adsorbate particles and substrate particles.

18. (ONCE AMENDED) An apparatus as in claim 17, wherein
the kinetic condition setting unit sets information for providing a direction of velocity to the adsorbate particles, and

the display shows the direction of velocity with respect to the region set by the kinetic condition setting unit and the region indicating the position of a respective substrate particle.

19. (NOT AMENDED) An apparatus as in claim 16, further comprising:
a display which displays the information set by the kinetic condition setting unit.

20. (FOUR TIMES AMENDED) A computer-implemented method for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the method comprising the steps of:

setting information for defining a plurality of generation periods and a corresponding number of adsorbate particles to be generated during each generation period;

generating the adsorbate particles in accordance with the information set in the setting step and the position of the corresponding emission sources;

computing motion of the generated adsorbate particles; and

simulating phenomena of said particle formed of adsorbate particles and substrate particles in accordance with the computed motion.

22. (FOUR TIMES AMENDED) A computer-implemented method for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the method comprising the steps of:

setting, for each adsorbate particle, a region indicating a position of the corresponding emission source;

generating the adsorbate particles in accordance with the position of the corresponding emission source as indicated by the region set in the setting step;

computing motion of the generated adsorbate particles; and

simulating phenomena of said particle formed of adsorbate particles and substrate particles in accordance with the computed motion.

23. (FOUR TIMES AMENDED) A method for simulating phenomena of a particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source, the method comprising:

setting information for defining kinetic conditions of the adsorbate particles;

displaying the set information;

generating the adsorbate particles in accordance with the set information and the positions of the corresponding emission sources; and

computing motion of the generated adsorbate particles, to simulate phenomena of said particle formed of adsorbate particles and substrate particles, each adsorbate particle having a corresponding emission source.

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24. (FOUR TIMES AMENDED) An apparatus for simulating phenomena of a particle formed with adsorbate particles, comprising:

a kinetic condition setting unit which sets information for defining kinetic conditions of the adsorbate particles; and

a particle motion computing unit which generates the adsorbate particles in accordance with the information set by the kinetic condition setting unit and computes motion of the generated adsorbate particles, to simulate phenomena of said particle formed with adsorbate particles, each adsorbate particle having a corresponding emission source, wherein

for each adsorbate particle, the kinetic condition setting unit sets a region indicating a position of the corresponding emission source, and

the particle motion computing unit generates each adsorbate particle in accordance with the position of the corresponding emission source as indicated by the region set by the kinetic condition setting unit.

25. (NOT AMENDED) An apparatus as in claim 24, wherein the information set by the kinetic condition setting unit defines a plurality of generation periods and a corresponding number of adsorbate particles to be generated during each generation period by the particle motion computing unit.

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26. (TWICE AMENDED) An apparatus as in claim 24, wherein said particle formed with adsorbate particles is formed with both adsorbate particles and substrate particles,

the information set by the kinetic condition setting unit includes information for defining kinetic conditions of the substrate particles, and

the particle motion computing unit generates the substrate particles before generating the adsorbate particles.

27. (TWICE AMENDED) An apparatus as in claim 24, wherein
said particle formed with adsorbate particles is formed with both adsorbate particles and
substrate particles,

each substrate particle includes a fixed particle and a temperature control particle,

the information set by the kinetic condition setting unit includes information for defining
kinetic conditions of the fixed particle and the temperature control particle, and

the particle motion computing unit generates the fixed particle and the temperature
control particle of each substrate particle in accordance with the information set by the kinetic
condition setting unit.

28. (NOT AMENDED) An apparatus as in claim 24, further comprising:

a display which displays the information set by the kinetic condition setting unit.

29. (TWICE AMENDED) An apparatus as in claim 24, wherein

each adsorbate particle includes a plurality of atoms;

the information set by the kinetic condition setting unit includes information indicating
whether the atoms of a respective adsorbate particle are static against a center of mass of the
adsorbate particle; and

when the particle motion computing unit generates an adsorbate particle and the
information set by the kinetic condition setting unit indicates that the atoms of the respective
adsorbate particle are not static against the center of mass, the particle motion computing unit
provides a random orientation to the atoms of the adsorbate particle.

30. (ONCE AMENDED) An apparatus as in claim 29, wherein, when the particle
motion computing unit generates an adsorbate particle and the information set by the kinetic
condition setting unit indicates that the atoms of the respective adsorbate particle are not fixed
against center of mass, the particle motion computing unit provides an initial velocity to the
atoms of the adsorbate particle.

31. (TWICE AMENDED) An apparatus as in claim 24, wherein, when generating an
adsorbate particle, the particle motion computing unit provides a random direction within a cone
pointed at a substrate and being centered at a point of generation of center of mass velocity of
the adsorbate particle.